

Serial No. 10/043,140
September 11, 2003
Reply to the Office Action dated April 14, 2003
Page 11 of 15

REMARKS/ARGUMENTS

Claims 1-20 are pending in this application. By this Amendment, Applicant amends the specification and claims 4, 9 and 10.

Applicant greatly appreciates the Examiner's indication that claim 20 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims.

The disclosure was objected to for containing various minor informalities. Applicant has amended the specification to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

Claims 4, 5, 9 and 10 were objected to for containing various minor informalities. Applicant has amended claims 4, 9 and 10 to correct the minor informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection.

Claims 1-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ushiroku et al. (U.S. 6,137,380). Applicant respectfully traverses this rejection.

Claim 1 recites:

"A ladder circuit type surface acoustic wave filter device comprising:
a piezoelectric substrate;
a plurality of parallel arm resonators and a plurality of series arm resonators provided on said piezoelectric substrate, the parallel arm resonators and the series arm resonators being defined by surface acoustic wave resonators; and
a plurality of inductors respectively connected in series to said plurality of parallel arm resonators; wherein
the parallel arm resonators include a first parallel arm resonator of said plurality of parallel arm resonators connected to one of an input end and an output end of the filter device, and a second parallel arm resonator of said plurality of parallel arm resonators connected to a junction between two series arm resonators of said plurality of series arm resonators; and
said first parallel arm resonator and said second parallel arm resonator have a relationship represented by the following expression:
$$Cp1 \times 2 < Cp2$$

Serial No. 10/043,140
September 11, 2003
Reply to the Office Action dated April 14, 2003
Page 12 of 15

where $Cp1$ represents the capacitance of said first parallel arm resonator, and $Cp2$ represents the capacitance of said second parallel arm resonator; and

the inductor of said plurality of inductors that is connected to said second parallel arm resonator has an inductance that is substantially equal to or less than the inductance of the inductor of said plurality of inductors connected to said first parallel arm resonator." (emphasis added)

With the unique combination and arrangement of elements recited in the present claimed invention, including "the inductor of said plurality of inductors that is connected to said second parallel arm resonator has an inductance that is substantially equal to or less than the inductance of the inductor of said plurality of inductors connected to said first parallel arm resonator," Applicant has produced an improved ladder circuit type SAW filter device which has sufficient attenuation in each stop band of ranges higher and lower than a pass band and superior steepness of filter characteristics in a low frequency domain in the vicinity of the pass band (see, for example, the second full paragraph on page 4 of the present application, as originally filed).

The Examiner alleged that Ushiroku et al. teaches all of the features recited in the present claimed invention including "the inductor of said plurality of inductors that is connected to said second parallel arm resonator has an inductance that is substantially equal to or less than the inductance of the inductor of said plurality of inductors connected to said first parallel arm resonator". Specifically, the Examiner alleged that "the inductor represented by bond wire 155c (Fig. 38), which is connected to the second parallel arm resonator 25 and to package electrode 143c, has an inductance that is substantially equal to or less than the inductance of the inductors connected to the first parallel arm resonator 23 because bond wire 155c is necessarily shorter than any of the other bond wires connecting the first parallel resonators to the package electrodes." Applicant respectfully disagrees.

In contrast to the present claimed invention and the Examiner's allegations, Fig. 38 of Ushiroku et al. teaches that the second parallel arm resonator is connected to an

Serial No. 10/043,140
September 11, 2003
Reply to the Office Action dated April 14, 2003
Page 14 of 15

inductors that is connected to said second parallel arm resonator has an inductance that is substantially equal to or less than the inductance of the inductor of said plurality of inductors connected to said first parallel arm resonator" as recited in the present claimed invention. If the rejection is based on facts within the personal knowledge of the Examiner, the data should be supported as specifically as possible and the rejection must be supported by an affidavit from the Examiner, which would be subject to contradiction or explanation by affidavit of Applicants or other persons. See 37 C.F.R. §1.104(d)(2).

Even assuming *arguendo* that the length of the bonding wires 155c and 155d of the inductor connected to the second parallel arm resonator 25 of Ushiroku et al. was less than the length of the bonding wires 155a and 155b of the inductor connected to the first parallel arm resonator 23, the inductance of the inductor connected to the second parallel arm resonator would **not** necessarily be equal to or less than that of the inductor connected to the first parallel arm resonator because various additional factors affect the inductance of bonding wires, e.g. the width or diameter of the bonding wires, the material used for the bonding wires, etc.

Since Ushiroku et al. fails to teach or suggest anything at all about the relative inductances of the inductors connected to the first and second parallel arm resonators, Applicant respectfully submits that Ushiroku et al. fails to teach or suggest that "the inductor of said plurality of inductors that is connected to said second parallel arm resonator has an inductance that is substantially equal to or less than the inductance of the inductor of said plurality of inductors connected to said first parallel arm resonator" as recited in the present claimed invention. Thus, Ushiroku et al. fails to teach or suggest **each and every** element recited in the present claimed invention.

Accordingly, Applicant respectfully submits that Ushiroku et al. fails to teach or suggest the unique combination and arrangement of elements recited in claim 1 of the present application.

In view of the foregoing amendments and remarks, Applicant respectfully submits

Serial No. 10/043,140
September 11, 2003
Reply to the Office Action dated April 14, 2003
Page 15 of 15

that Claim 1 is allowable. Claims 2-20 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a Two-month extension of time, extending to September 14, 2003, the period for response to the Office Action dated April 14, 2003.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: September 11, 2003


Attorneys for Applicant

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710

KEATING & BENNETT LLP
10400 Eaton Place, Suite 312
Fairfax, VA 22030
Telephone: (703) 385-5200
Facsimile: (703) 385-5080